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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/776,671 | 02/06/2001 | Masaru Honda | Q62961 | 2529 |

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| EXAMINER |
|---|
| HON, SOW FUN |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1772 | 6 |

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Please find below and/or attached an Office communication concerning this application or proceeding.

A3-6

| Office Action Summary | Application No. 09/776,671 | Applicant(s) HONDA ET AL. | |
|---|---|---|---|
| | Examiner Sow-Fun Hon | Art Unit 1772 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear where the different elements are with respect to a cross-section of the transflective polarizer.

a. In claim 5, it is unclear whether the droplets are made up of two or more kinds of polymers, or if the matrix is made up of one polymer and the droplets of another kind of polymer.

b. In claim 12, it is unclear what is meant by the limitation: " laminating the transflective polarizer, a light source and a reflector in this order". What does a cross-section of the laminate look like?

c. In claim 13, it is unclear what is meant by the limitation: " laminating the transflective polarizer, a light transmitting plate having a light source placed on the edge and a reflector in this order". What does a cross-section of the laminate look like? It is also unclear what a light transmitting plate is.

d. In claim 14, it is unclear what is meant by the limitation: " placing the polarizing light source, a liquid crystal cell and a dichroic polarizer in this order". What does a cross-section of the laminate look like?

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4, 6-8, 12-14, 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Weber et al. (US 5,686,979).

Weber et al. teaches a transflective polarizer comprising a dichroic polarizer, a reflective polarizer and a transflector (column 9, lines 45-65, column 10, lines 1-10 and column 12, lines 1-30). Weber et al. teaches that the two reflective polarizers are crossed, and that the polarization orientation of the dichroic (absorptive) polarizer is parallel to the transmission polarization orientation of the reflective polarizer on which it is placed (column 9, lines 45-65), thus a transmission axis of the dichroic polarizer and a transmission axis of the other reflective polarizer are directed to the same direction. The dichroic polarizer is an iodine-based or dye-based polarizing film (column 10, lines 1-10). A light diffusive layer is laminated on at least one surface of the dichroic polarizer (column 11, lines 40-68 and column 12, lines 1-5). The reflective polarizer is a multi-layer laminate composed of two or more kinds of polymer films (column 10, lines 1-10). Weber et al. teaches that the birefringent film in the reflective polarizer has a quarter wavelength, and that the film may have a cholesteric liquid crystal (column 9, lines 30-45, column 15, line 60-68 and column 7, lines 50-60). Since Weber et al. does not teach any in-phase retardation value of the transflector, it appears to be zero. Either the fast or the slow axis of the transflector and the dichroic polarizer are directed to the same direction since Weber et al. does not specify the preference.

Weber et al. teaches the transflective liquid crystal display device (column 3, lines 50-68). Different embodiments of the display are shown, one being a light transmitting plate (light

guide), light source (lamp) and a reflector (reflective housing) in this order. The transflective polarizer is the assembly on top (column 11, lines 50-68). One embodiment shows a light source, a liquid crystal cell and a dichroic (absorptive) polarizer on the very top (column 11, lines 40-65). Weber et al. teaches a light diffusive layer laminated on at least one surface of the dichroic polarizer (column 11, lines 40-68 and column 12, lines 1-5).

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. in view of Cobb, Jr. et al. (US 6,018,419).

Weber et al. has been discussed above and teaches the transflective liquid crystal display. In addition, Weber et al. teaches a light diffusive layer (optical diffuser) which is a polymer film consisting of droplets dispersed therein (transparent spherical particles in a base film) (column 12, lines 1-5). Weber et al., however, fails to teach the claimed materials of the light diffusive layer.

Cobb, Jr. et al. teaches a transflective liquid crystal display (column 1, lines 15-30). Cobb et al. teaches a diffusing layer on a reflective polarizer, in the form of an adhesive made from droplets dispersed in a pressure sensitive adhesive (column 3, lines 35-68), composed of

more than two different polymers, acrylic/styrene particles in a polyacrylate matrix. Cobb, Jr. et al. teaches that the diffusing adhesive performs the dual function of diffusion and adhesion (column 3, lines 25-65 and column 4, lines 1-10).

Because Cobb, Jr. et al. teaches that the diffusing adhesive performs the dual function of diffusion and adhesion, it would have been obvious to one of ordinary skill in the art to have used the diffusing adhesive of Cobb et al. in the invention of Weber et al. in order to obtain a transflective liquid crystal display with the desired light diffusion and interlaminar adhesion.

6. Claim 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. in view of Perregaux et al. (US 4,355,868) and Cobb et al.

Weber et al. has been discussed above and fails to teach the layer of scaly reflective particles in a pressure sensitive adhesive.

Perregaux et al. teaches a transflector which contains a matrix of polystyrene to which is added scaly reflective particles of mica coated with metal oxide (titanium dioxide) and particles of polyethylene (column 4, lines 20-35). Perregaux et al. teaches that the transflector enables the very exact setting of the ratio of transmission to reflection by the suitable selection of the type and the amount of the particles (first filling material) (column 2, lines 45-65).

Because Perregaux et al. teaches that the transflector composition enables the very exact setting of the ratio of transmission to reflection by the suitable selection of the type and the amount of the particles, it would have been obvious to one of ordinary skill in the art to have used the transflector of Perregaux et al. as the transflector in the invention of Weber et al. in order to obtain a transflective polarizer with the desired ratio of transmission to reflection.

Perregaux et al. fails to teach the transflector as having a pressure sensitive adhesive matrix.

Cobb et al. has been discussed above and teaches that diffusing adhesive performs the dual function of diffusion and adhesion. It would have been obvious to one of ordinary skill in the art to have used the teaching of Cobb et al. to apply the transflector of Perregaux et al. in the form of a pressure sensitive adhesive in the invention of Weber et al. in order to obtain a transflective liquid crystal diplay with a transflector which also performs as an interlaminar adhesive.

7. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. in view of Ketchpel (US 4,040,727).

Weber et al. teaches the transflective polarizer, but fails to teach the transflector as a film of metal on a polymer film.

Ketchpel teaches a transflector which is a metal film deposited on a polymer film (column 2, lines 10-40), and that the transflector permits reflection of substantial percentages of incident light and transmission of substantial percentages of back light (column 4, lines 55-60).

Because Ketchpel teaches that the transflector permits reflection of substantial percentages of incident light and transmission of substantial percentages of back light, it would have been obvious to one of ordinary skill in the art to have used the transflector of Ketchpel as the transflector in the invention of Weber et al. in order to obtain a transflective liquid crystal display with high reflection of incident light and high transmission of back light.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weber et al. in view of Inoue et al. (US 5,838,408).

Inoue et al. teaches a transflective liquid crystal device with a transflector (column 2, lines 40-50). Inoue et al. teaches that a phase retarder (anisotropic substance) is placed between the transflective polarizer and the liquid crystal cell (column 3, lines 1-50) in order to obtain the desired retardation effect for multiple color display (column 1, lines 55-65).

Inoue et al. demonstrates that it would have been obvious to one of ordinary skill in the art to have placed a phase retarder in the invention of Weber et al. in order to obtain a transflective liquid crystal display with the desired retardation effect for multiple color display.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

SH
09/27/02

HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

9/28/02